

Date: Thu, 21 Apr 94 04:30:12 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #114  
To: Ham-Ant

Ham-Ant Digest                      Thu, 21 Apr 94                      Volume 94 : Issue 114

Today's Topics:

                    Antenna Info needed  
                    Calling all balun experts (3 msgs)  
                    Ethernet Coax for Antenna? (2 msgs)  
                    Is that all there is to a G5RV?  
                    Is this too crazy to work!!?? (2 msgs)  
                    Need recommendations on building an HF beam antenna  
                    Skyprobe antenna  
                    Slot antennas on cars?  
                    Strange Coax Problem (2 msgs)  
                    SW antenna info needed

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Wed, 20 Apr 1994 07:30:12 GMT  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!cs.utexas.edu!  
chpc.utexas.edu!news.utdallas.edu!corpgate!bnrgate!bnr.co.uk!pipex!bbc!ant!  
boyer@network.ucsd.edu  
Subject: Antenna Info needed  
To: ham-ant@ucsd.edu

Ky T. Nguyen (kynguyen@bluefish.nosc.mil) wrote:  
: Hi,

: I am looking for a Short Wave antenna for my Sony ICF-SW77. I need a good  
: antenna to get weak signal of BBC & VOA broadcasts which are directed to Asia.  
: Anyone has one or knows about it, please give me suggestions and

: recommendations (which kind antenna I should buy).

: Thank you in advance for the information.

: kynguyen@bluefish.nosc.mil

Try a random wire first. It's easier cheaper and if it doesn't work you can always go out and buy a commercial product or build one. An antenna tuner would help on the receive end of the random wire. Somewhat expensive to buy, but you could probably build your own. Look in the ham books for antenna tuning units. BTW I receive Nairobi wefax transmissions with a wire strung across my loft.

Have fun

John B

john.boyer@rd.eng.bbc.co.uk

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Date: 20 Apr 94 16:11:08 GMT

From: agate!overload.lbl.gov!dog.ee.lbl.gov!ihnp4.ucsd.edu!swrinde!emory!  
europa.eng.gtefsd.com!news.umbc.edu!eff!news.kei.com!ssd.intel.com!chnews!  
cmoore@ucbvax.berkeley.edu

Subject: Calling all balun experts

To: ham-ant@ucsd.edu

I needed two 4:1 baluns so I bought one Amidon HBHT200 voltage balun designed by W2FMI and one MFJ-912 current balun designed by W9INN. I compared them on an 88 ft. ABCD (all band centerfed dipole) and on all the bands that I normally use, the antenna tuner settings were the same, indicating that they were both doing a 4:1 transformation.

However, on a couple of bands, the antenna tuner (MFJ-949E) settings were very different. On 10.125 MHz, the settings with the MFJ were

10 G 10 minimum Xc and a lot of Xl. With the Amidon the settings:

10 C 4 less Xc on the output and less Xl.

I think one of these baluns is malfunctioning (saturating?) on 30m. Question is, which one? I plan to do some signal strength readings when I get time. Receive signal 'S' meter readings were the same with both baluns during this testing. Any ideas?

Thanks and 73, Cecil, KG7BK

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Date: 20 Apr 94 16:36:09 GMT  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
vixen.cso.uiuc.edu!usenet@ucbvax.berkeley.edu  
Subject: Calling all balun experts  
To: ham-ant@ucsd.edu

In <2p3k6s\$1rd@chnews.intel.com>, cmoore@ilx018.intel.com (Cecil A. Moore -FT~~) writes:

>I needed two 4:1 baluns so I bought one Amidon HBHT200 voltage balun  
>designed by W2FMI and one MFJ-912 current balun designed by W9INN.  
>I compared them on an 88 ft. ABCD (all band centerfed dipole) and on  
>all the bands that I normally use, the antenna tuner settings were  
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>  
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>were very different. On 10.125 MHz, the settings with the MFJ were  
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>10 G 10 minimum Xc and a lot of Xl. With the Amidon the settings:  
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>10 C 4 less Xc on the output and less Xl.  
>  
>I think one of these baluns is malfunctioning (saturating?) on 30m.  
>Question is, which one? I plan to do some signal strength readings  
>when I get time. Receive signal 'S' meter readings were the same  
>with both baluns during this testing. Any ideas?  
>  
>Thanks and 73, Cecil, KG7BK

A good test of saturation is running the balun at high power for a longer period of time (preferably when bands are dead). If the balun is not hot, it doesn't absorb the energy and thus is good. If the power does not stay in the balun, it has to go somewhere!

Baluns are not ideal transformers but rather transmission lines. Because their characteristics could be different, their performance under mismatch is likely to be different from each other even if both are perfect. If your antenna is not perfectly balanced (one side is closer to buildings/trees than the other), baluns may not isolate the antenna from the ground. The level of that isolation is considered better for current than voltage baluns.

Ignacy Misztal	Ham radio: N09E, SP8FWB
E-mail: ignacy@uiuc.edu	
University Of Illinois	1207 W. Gregory Dr., Urbana, IL 61801, USA
tel. (217) 244-3164	Fax: (217) 333-8286

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Date: 20 Apr 94 19:08:12 GMT  
From: agate!howland.reston.ans.net!usc!nic-nac.CSU.net!news.Cerritos.edu!  
news.Arizona.EDU!nelson.as.arizona.edu!hlester@ucbvax.berkeley.edu  
Subject: Calling all balun experts  
To: ham-ant@ucsd.edu

In article <2p3k6s\$1rd@chnews.intel.com> cmoore@ilx018.intel.com (Cecil A. Moore  
-FT-~) writes:

>I needed two 4:1 baluns so I bought one Amidon HBHT200 voltage balun  
>designed by W2FMI and one MFJ-912 current balun designed by W9INN.

Cecil, I've been under the impression that the W9INN balun is a voltage,  
not a current balun. I could be wrong - a first this year. :)

Howard

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Date: 20 Apr 94 15:28:43 GMT  
From: agate!library.ucla.edu!europa.eng.gtefsd.com!news.umbc.edu!eff!news.kei.com!  
ssd.intel.com!chnews!cmoore@ucbvax.berkeley.edu  
Subject: Ethernet Coax for Antenna?  
To: ham-ant@ucsd.edu

James Baker (jbaker@halcyon.com) wrote:  
: Does anyone have experience using IEEE 802.3 "thicknet" cable for antenna  
: feeds?

Hi James, AT&T Ethernet cable has very similar loss characteristics to  
RG-8 Foam. It's very good for HF and not bad for VHF. Only thing, it is  
not UV resistant so if it's in the sun, it doesn't last very well.

73, Cecil, KG7BK

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Date: Mon, 18 Apr 1994 14:43:05 -0800  
From: ihnp4.ucsd.edu!swrinde!gatech!newsxfer.itd.umich.edu!ncar!asuvax!  
pitstop.mcd.mot.com!mcdphx!schbbs!mothost!mdisea!uw-coco!nwnexus!bellevue-  
ip16.halcyon.com!user@network.ucsd.edu  
Subject: Ethernet Coax for Antenna?  
To: ham-ant@ucsd.edu

Does anyone have experience using IEEE 802.3 "thicknet" cable for antenna  
feeds?

I am thinking about using it for HF longwire antenna leadin from Balun. It is bright yellow, 50 ohm, well sheilded (two foils and 2 braid layers), has one 12 ga. solid center conductor, attaches easily to PL-239's. Plus I have a bunch otherwise going to waste.

Seems like the perfect stuff but I thought I might save myself some grief if my plans are doomed for some reason I don't see.

Thanks for any input.

--

James Baker  
Seattle, WA  
jbaker@halcyon.com

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Date: 19 Apr 1994 22:00:38 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!europa.eng.gtefsd.com!  
news.umbc.edu!eff!news.kei.com!ssd.intel.com!chnews!cmoore@network.ucsd.edu  
Subject: Is that all there is to a G5RV?  
To: ham-ant@ucsd.edu

Jim Garver (zardoz@ornews.intel.com) wrote:

: Go out and buy the ARRL Antenna Compendium, Vol. #1, and read the article  
: in there authored by Mr. Varney, AKA G5RV. This should clear up any  
: misunderstandings of his design.

Hi Jim, I think that's the article where Mr. Varney said to get rid of  
the coax in a G5RV. The confusion is that all commercially available  
"G5RV"s that I know of, come with coax.

: I have never tried the G5RV with coax and/or balun. Only ladder line of  
: the plastic 450 ohm species. zardoz@ornews.intel.com WA7LDV

There are some who will argue that it's not a G5RV without coax and a  
"matching section". I wish we would just call these kinds of antennas  
ABCFDs for All-Band Center-Fed Dipoles.

Thanks for remembering where I read Mr. Varney's latest recommendations.

73, Cecil, KG7BK

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Date: Wed, 20 Apr 1994 07:41:47 GMT  
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!chpc.utexas.edu!news.utdallas.edu!

corpgate!bnrgate!bnr.co.uk!zaphod.axion.bt.co.uk!uknet!lyra.csx.cam.ac.uk!pipex!  
bbc!ant!boyer@network.ucsd.edu  
Subject: Is this too crazy to work!??  
To: ham-ant@ucsd.edu

Bruce Pea (bpea@prairienet.org) wrote:

: I'd like to thank everyone who took the time to send me comments  
: on my chicken wire counterpoise question. Now I've got another  
: question.

: I'm thinking of building a half-wave helically <sp> wound 160m  
: vertical to stick on top of my three story house. Can I use my  
: water pipes in the house as my counterpoise? What if I attached  
: ground wires to the pipes and ran them out in the yard and around  
: the house, would that help even more?

: Does having the antenna three stories above the counterpoise make  
: any difference? Is this too crazy to work? Is my ignorance obvious?  
: Can you tell I JUST got my ticket and I'm going nuts trying to  
: figure out what to put up :-)

: Thanks again for all your comments and help!

: Bruce / N9WKE

Let's say that your house is what 45 feet high in meters that's about 14m.  
The wavelength at 160m is of course believe it or not 160m so we are  
talking about say a  $\lambda/10$  gap. It might just work. You don't mention what  
type of soil do you have. FYI the beeb use earth mats in the ground around  
some lf/mf transmitters. So your idea of a earth wires doesn't sound so  
crazy. I suggest you try the helix first and then add the improvements as  
necessary. It was suggested to me a couple of days back that if you had a  
CB  $\lambda/4$  whip on top of the car the capacitance between between the car  
car and the ground would be sufficient to have the ground act like a  
counterpoise. Sounds like a similar problem to your own just a different scale.

Have loadsa fun.

John B

john.boyer@rd.eng.bbc.co.uk

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Date: 20 Apr 1994 02:07:33 GMT  
From: ihnp4.ucsd.edu!mvb.saic.com!news.cerf.net!usc!howland.reston.ans.net!  
vixen.cso.uiuc.edu!prairienet.org!bpea@network.ucsd.edu

Subject: Is this too crazy to work!!??  
To: ham-ant@ucsd.edu

I'd like to thank everyone who took the time to send me comments on my chicken wire counterpoise question. Now I've got another question.

I'm thinking of building a half-wave helically <sp> wound 160m vertical to stick on top of my three story house. Can I use my water pipes in the house as my counterpoise? What if I attached ground wires to the pipes and ran them out in the yard and around the house, would that help even more?

Does having the antenna three stories above the counterpoise make any difference? Is this too crazy to work? Is my ignorance obvious? Can you tell I JUST got my ticket and I'm going nuts trying to figure out what to put up :-)

Thanks again for all your comments and help!

Bruce / N9WKE

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Date: 20 Apr 94 06:02:55 GMT  
From: agate!library.ucla.edu!europa.eng.gtefsd.com!news.msfc.nasa.gov!  
elroy.jpl.nasa.gov!wp-sp.nba.trw.com!newswire.etdesg.TRW.COM!  
wayne@ucbvax.berkeley.edu  
Subject: Need recommendations on building an HF beam antenna  
To: ham-ant@ucsd.edu

>I'm interested in building a beam antenna for my new HF rig (Kenwood 850).  
>After looking at the ARRL antenna book, I realized that I need some  
>assistance. I have some space to put up an antenna on my roof, but the  
>kind of multi-band HF antennas that are shown in the book are ENORMOUS.  
>Some of them are about the area of my house!

In addition to the usual antenna references, there was a construction article in QST April 93 on a 2 element duoband beam.

An alternative which may be of interest is the 8JK antenna, a 2 element multiband beam. The latest literature I have seen is June 82 QST. The antenna often uses open wire feed to a tuner to accomplish multiband operation. For a 20 meter through 6 meter antenna, the elements are each 24 ft, spaced 8.5 ft.

While this is not a miniature antenna, the 24 foot element length is just a little longer than a 15 meter full sized beam. The

antenna is bidirectional, but has good front/back to side rejection. The mechanical aspects should be simpler than building a trapped, multiband beam.

I built a version many years ago using a 2x2 fir boom which had end pieces such that there was a wooden "H". The aluminum elements were mounted with standoff insulators on the wooden "H".

--wayne W5GIE  
"Speaking for myself"

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Date: 18 Apr 94 19:37:31 GMT  
From: agate!howland.reston.ans.net!cs.utexas.edu!usc!nic-nac.CSU.net!  
charnel.net.csuchico.edu!charnel!yeshua.marcam.com!news.kei.com!ub!newserve!sarah!  
psinntp!psinntp!halon!sybase!srikant@ucbvax.  
Subject: Skyprobe antenna  
To: ham-ant@ucsd.edu

any idea where I can get this (in the SFO Bay area)? I checked with Ham Radio Outlet (Oakland) and they don't carry this brand.

Thanks.

--

Srikant Subramaniam.  
srikant@sybase.com

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Date: 20 Apr 94 05:26:33 GMT  
From: agate!ihnp4.ucsd.edu!usc!elroy.jpl.nasa.gov!grian!pelican!ent-img.com!  
wb6hqk!bart@ucbvax.berkeley.edu  
Subject: Slot antennas on cars?  
To: ham-ant@ucsd.edu

In article <CoItD7.5Aq@srigenprp.sr.hp.com>, Alan Bloom <alanb@sr.hp.com> wrote:  
>

>The front or rear window of a car makes a pretty decent slot antenna for  
>the CB band (or 10 meters). It's shorter than resonant, but those who  
>have tried it tell me that a small variable capacitor in series with the  
>feed gives a low SWR.

>

>Connect the coax shield to the bottom of the window frame and connect  
>the center conductor through the capacitor and a wire to the top of the  
>frame at the middle.

>



Twenty or so years ago I successfully loaded the center window on the Port side of a VW bus on 10m in the fashion Al describes. As I recall I used a small 50 pf variable cap on 28.585 MHz and it worked remarkably well compared to a full 1/4 wave whip. Never was able to shunt feed the entire bus on 40m however....

BTW, the General Motors Impact Electric Vehicle uses an annular slot on the roof for the FM (and AM I think) antenna. Really works great!

bart wb6hqq

bart@wb6hqq.ent-img.com

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Date: 20 Apr 94 16:21:59 GMT  
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!news.umbc.edu!eff!news.kei.com!ssd.intel.com!chnews!cmoore@ucbvax.berkeley.edu  
Subject: Strange Coax Problem  
To: ham-ant@ucsd.edu

Bob Dixon (rdixon@peri.acs.ohio-state.edu) wrote:  
: I have a 100 foot length of coax running up my tower that has gone bad in some way  
: I do not understand. Measured with an ohmeter, both conductors show very low  
: resistance. It measures infinite between conductors. Yet when a dummy load is placed  
:  
: Bob W8ERD

Hi Bob, I had a problem with identical symptoms. My RG8X foam coax had been too long in the Phoenix sun and the foam had melted. The center conductor moved closer to the shield, not enough to short out, but enough to cause an impedance mismatch and high SWR. I replaced it with 9913.

73, Cecil, KG7BK

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Date: 20 Apr 94 19:39:03 GMT  
From: hp-cv!hp-pcd!hpcvsnz!tomb@hplabs.hp.com  
Subject: Strange Coax Problem  
To: ham-ant@ucsd.edu

Bob Dixon (rdixon@peri.acs.ohio-state.edu) wrote:  
: I have a 100 foot length of coax running up my tower that has gone bad in some way  
: I do not understand. Measured with an ohmeter, both conductors show very low  
: resistance. It measures infinite between conductors. Yet when a dummy load is

placed

: at one end, the SWR is greater than 3:1 on all HF bands. All test equipment is known

etc.

As another poster noted, checking such a line with a TDR (or simple home-made equivalent if you have a fast scope) would be a good idea.

One possibility is that the center conductor is no longer centered. Particularly in polyethelene insulation, and especially if it's foam, this can happen because the line has gotten hot. One way it can get hot is from operation at high SWR, and in this case, the heat tends to concentrate at 1/2 wave nodes, causing a "ripple" effect in the impedance vs length. Just how much effect does a displacement of the center conductor have? Perhaps the following table, calculated from a line formula in "Reference Data for Engineers" (Sams), will be useful. It's for a line insulated with solid polyethelene, dielectric constant = 2.25 assumed, and center conductor OD = .2865 \* outer conductor ID. Displacement is in percent of outer conductor ID.

disp. %	impedance, ohms
0	50.00
5	49.56
10	48.21
15	45.83
20	42.17
25	36.73
26	35.35
27	33.83
28	32.17
29	30.32
30	28.26
31	25.93
32	23.24
33	20.05
34	16.04
35	10.29

(shorted beyond 35.67%)

73, K7ITM

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Date: 20 Apr 94 18:42:18 GMT  
From: news-mail-gateway@ucsd.edu

Subject: SW antenna info needed  
To: ham-ant@ucsd.edu

Hi,

I am looking for a Short Wave antenna for my Sony ICF-SW77. I need a good antenna to get weak signal of BBC & VOA broadcasts which are directed to Asia. Anyone has one or knows about it, please give me suggestions and recommendations (which kind antenna I should buy).

Thank you in advance for the information.

kynguyen@bluefish.nosc.mil

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Date: Wed, 20 Apr 1994 04:02:10 GMT  
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!europa.eng.gtefsd.com!  
library.ucla.edu!news.ucdavis.edu!csus.edu!netcom.com!wb6w@network.ucsd.edu  
To: ham-ant@ucsd.edu

References <1994Apr3.171753.9535@news.vanderbilt.edu>,  
<wb6wCo2FD1.JBw@netcom.com>, <1994Apr11.003710.6271@ulb.rit.edu>  
Subject : Re: Egg beater?

J.D. Cronin (jdc3538@ulb.rit.edu) wrote:  
: In article <wb6wCo2FD1.JBw@netcom.com> wb6w@netcom.com (Glenn Thomas) writes:  
: >I used an eggbeater on 2m mobile during a VHF contest shortly after the  
: >(etc.)  
: >I was quite impressed by the antenna.  
: >  
: >73 de Glenn wb6w@netcom.com  
  
: What's an "eggbeater" antenna?  
  
: 73...Jim N2VNO

Jim - An "eggbeater" antenna is a 2 meter antenna that consists of two loops mounted two loops mounted orthogonally. It provides a signal that is largely circular polarization straight up (good for satellites) and mainly horizontal polarization towards the horizon (good for terrestrial SSB - also 2m DX) - Glenn wb6w@netcom.com

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End of Ham-Ant Digest V94 #114  
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